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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,640	11/20/2001	Eric Boudjema	Q66738	8908

7590 10/17/2005

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EXAMINER	
PEREZ GUTIERREZ, RAFAEL	
ART UNIT	**PAPER NUMBER**
2686	

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/988,640	Boudjema et al.	
	Examiner	Art Unit	
	Rafael Perez-Gutierrez	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Action is in response to Applicant's request for reconsideration filed on August 9, 2005. **Claims 1-16** are still pending in the present application. **This Action is made NON-FINAL.**

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

3. The disclosure is objected to because of the following informalities:

a) On **page 3 line 25**, **page 7 line 34**, **page 8 lines 20 and 22**, **page 10 line 14**, and **page 11 lines 31 and 32**, replace "i.e." with --i.e.,--;

b) On **page 7 line 25**, replace "M^g" with --M^i--; and

c) On **page 7 line 27**, replace "M^f" with --M^i--.

Appropriate correction is required.

Claim Objections

4. **Claims 2, 6, 8, and 13** are objected to because of the following informalities:

a) On **line 2** of **claims 2, 8, and 13**, insert --and-- before "codes"; and

b) On **line 1** of **claim 6**, insert --new-- before "calls".

Appropriate correction is required.

Response to Arguments

5. Applicant's arguments filed August 9, 2005, with respect to the final rejection of claims **1-3, 7-9, and 12-14** under **Vilander et al. (WO 99/66748)** have been fully considered and are persuasive. Therefore, the final rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of **Halton et al. (U.S. Patent # 6,697,346 B1)**.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

> A person shall be entitled to a patent unless -- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 7, 8, 12, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by

Halton et al. (U.S. Patent # 6,697,346 B1).

Consider **claims 1, 2, 7, 8, 12, and 13**, Halton et al. disclose a telecommunication system (figure 13), a base station 26 (call connection station) (figure 15), and a method of distributing transmission resources consisting of time slots (periods) (figures 2-6 and 8A-8D) (reads on **claims 2, 8, and 13**) in a telecommunication system (abstract) in which calls from or to mobile stations 27, 28 (terminals) pass through a base station 26 (call connection station) (figure 13 and column 12 lines 16-31), in which method the transmission resources controlled by said station 26 are divided into reservation slots (dedicated resources) allocated to terminals connected to said station 26 (abstract, figures 2, 3, and 8A-8D, column 7 lines 35 - column 8 line 17, and column 9 line 25 - column 10 line 64) and contention slots (common resources) that can be used by any terminal connected to said station 26 if said any terminal's dedicated resources are insufficient (i.e., contention slots (common resources) are available to be used by any terminal if the reservation slots (dedicated resources) are insufficient for the current demand (e.g., by moving the partition point (figures 2 and 3) or by reassigning the contention slots (figures 8A-8B))) (abstract, figures 13-17, column 7 lines 35 - column 8 line 17, and column 9 line 25 - column 10 line 64, and column 12 line 16 - column 15 line 40).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in

> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. **Claims 3, 9, and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Halton et al. (U.S. Patent # 6,697,346 B1)** in view of **Vilander et al. (WO 99/66748)**.

Consider **claims 3, 9, and 14**, and **as applied to claims 1, 7, and 12 above**, Halton et al. further disclose the use of statistical information to determine how to partition the available time slots (resources) (abstract).

However, Halton et al. do not specifically disclose wherein said dedicated resources are

determined using a statistical call model for each terminal over a given time period, said statistical model predicting a theoretical call intensity coming from each terminal at a given time within that period

In the same field of endeavor, Vilander et al. disclose a system, a connection station, and a method of distributing transmission resources in a telecommunication system, wherein dedicated resources are determined using a statistical call model for each terminal over a given time period (Wherein statistical call models such as non-linear predictors (Kalman filter-based model, fuzzy logic, self-learning based model, etc.) are employed for selecting a type of communication resource (dedicated or shared/common radio channel), for each communication terminal in a given time period or arrival packet time; *Page 15, lines 13-20 and lines 24-25; Page 16, lines 18-23; Page 17, lines 10-22; Page 20, lines 3-15; Page 21, lines 1-19; Page 22, lines3-16; Page 25, lines 12-15*), said statistical model predicting a theoretical call intensity coming from each terminal at a given time within that period (The statistical model predicting a theoretical call intensity, such as the amounts of packets to be sent over a radio communication channel at a given time period; *Page 20, lines 3-15; Page 21, lines 1-19; Page 22, lines3-16; Page 25, lines 12-15*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the resource allocation technique disclosed by Vilander et al. in the method, base (connection) station, and system taught by Halton et al. for the purpose of optimal distribution and allocation of telecommunications resources.

9. **Claim 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Halton et al. (U.S. Patent # 6,697,346 B1)** in view of **Vilander et al. (WO 99/66748) as applied to claim 3 above**, and further in view of **Funke et al. (U.S. Pat. No. RE37,571)**.

Consider **claim 4**, and **as applied to claim 3 above**, Halton et al., as modified by Vilander et al., disclose the aforementioned method for determining dedicated resources using a statistical call model for each terminal over a given time period, however, they fail to clearly specify wherein said time period of said model for each terminal is 24 hours.

In the same field of endeavor, Funke et al. disclose a radio communication system that takes statistical measurements gathered at predefined intervals during a 24 hours time period (*col. 32, lines 64-66*).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to have Halton et al., as modified by Vilander et al., method for determining dedicated resources using a statistical call model for each terminal over a 24 hours time period as taught by Funke et al. for the purpose of collecting traffic data over a relative large time period and accurately predicting a particular behavior.

10. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Halton et al. (U.S. Patent # 6,697,346 B1)** in view of **Vilander et al. (WO 99/66748) as applied to claim 3 above**, and further in view of **Iizuka (U.S. Pat. No. 6,246,880)**.

Consider **claim 5**, and **as applied to claim 3 above**, Halton et al., as modified by Vilander et al., disclose the aforementioned method, wherein a theoretical call intensity is

predicted from each terminal at a given time period, however, they fail to clearly specify wherein, for each terminal, at a given time, call intensity is predicted equal to its maximum call intensity weighted by its habitual rate of use (in Erlangs) at that time.

In the same field of endeavor, Iizuka discloses a system and method in a wireless communication system for providing wireless services in accordance to a predicted or possible traffic load/intensity from a communication terminal such as a base station at a given time period or intervals (periods of congestion), said predicted traffic load determined by recorded successful and denied requests for access, subsequently weighted by an habitual or averaged/estimated traffic load (*col. 2, lines 14- 18 and lines 43-46; col. 6, lines 7-12 and lines 47-54; col. 7, lines 4-16*).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to have Halton et al., as modified by Vilander et al., method for predicting call intensity in a given time period, weighting a maximum call intensity by its habitual rate of use as taught by Iizuka, for the purpose of developing a planning tool that accommodates users demands according to an adaptive growth when requesting wireless services.

11. **Claims 6, 11, and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Halton et al. (U.S. Patent # 6,697,346 B1)** in view of **Vilander et al. (WO 99/66748) as applied to claims 3, 9, and 14 above**, and further in view of **Mitra et al. (EP 0 790 726 A2)**.

Consider **claims 6, 11, and 16**, and **as applied to claims 3, 9, and 14 above**, Halton et al., as modified by Vilander et al., disclose the aforementioned method, station, and system,

however, they fail to clearly specify the application of the aforementioned method to admitting calls into a telecommunication system into which a call is admitted if the probability of said new call saturating said network is less than a predetermined threshold, where said probability is a function of the number of terminals that are communicating when a new call is requested

In the same field of endeavor, Mitra et al. disclose a system and method wherein an adaptive statistical model (i.e., a Poisson process) is employed for the admission of new calls into a telecommunication network (Page 4, lines 15-24), in which a call is admitted if the probability of said new call overloading the network capacity is less than a predetermined threshold or nominal capacity allocated to a particular class of service (*Page 4, line 48 thru Page 5, line 13*), where said probability is a function of the number of terminals that are communicating when a new call is requested (A reservation function (r_k), that depends on the probability of the new call saturating the network (d_k, a bandwidth required by a new call), and the number of calls in progress ($n_k d_k$); *Page 4, line 48 thru Page 5, line 13, Page 5, line 27 thru Page 6, line 15*).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to have Halton et al., as modified by Vilander et al., method, station, and system applied to admitting calls into a telecommunication system as taught by Mitra et al. for the purpose of accommodating resources and managing traffic congestion without degrading the quality of service when admitting a new call without affecting calls that are already in progress.

12. **Claims 10 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Halton**

et al. (U.S. Patent # 6,697,346 B1) in view of **Iizuka (U.S. Pat. No. 6,246,880)**.

Consider **claims 10 and 15**, and **as applied to claims 7 and 12 above**, Halton et al., disclose the aforementioned station and system, however, Halton et al. fail to clearly specify wherein, for each terminal, at a given time, call intensity is predicted equal to its maximum call intensity weighted by its habitual rate of use (in Erlangs) at that time.

In the same field of endeavor, Iizuka discloses a system and method in a wireless communication system for providing wireless services in accordance to a predicted or possible traffic load/intensity from a communication terminal such as a base station at a given time period or intervals (periods of congestion), said predicted traffic load determined by recorded successful and denied requests for access, subsequently weighted by an habitual or averaged/estimated traffic load (*col. 2, lines 14- 18 and lines 43-46; col. 6, lines 7-12 and lines 47-54; col. 7, lines 4-16*).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to have Halton et al. station and system for predicting call intensity in a given time period, weighting a maximum call intensity by its habitual rate of use as taught by Iizuka, for the purpose of developing a planning tool that accommodates users demands according to an adaptive growth when requesting wireless services.

Conclusion

13. Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

14. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Rafael Perez-Gutierrez whose telephone number is (571) 272-7915. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Marsha D. Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Rafael Perez-Gutierrez
R.P.G./rpg RAFAEL PEREZ-GUTIERREZ
PRIMARY EXAMINER
October 12, 2005